

Amendments to the Claims:

1. (original) A switched capacitor circuit comprising:

5 a positive side capacitor coupled to a first positive side node;

 a first positive side switch element for selectively coupling the first positive side node to a second node according to a first control signal; and

10 a precharge circuit coupled to the first positive side node for precharging the first positive side node to a precharge voltage for a predetermined time when the first positive side switch element is switched off according to the first control signal, and then for charging the first positive side node to a charge voltage until the first positive side switch element is switched on according to the first control signal.

15 2. (original) The switched capacitor circuit of claim 1, wherein the precharge circuit comprises:

20 a second positive side switch element coupled between the first positive side node and a third node, and having a control terminal coupled to a second control signal;

 a precharge switch element coupled between the third node and a fourth node, and having a control terminal coupled to the first control signal; and

25 a delay unit for generating the second control signal, wherein the second control signal is at a first voltage level for the predetermined time when the first positive side switch element is switched off according to the first control signal, and is then at a second voltage level for a remaining time that the first positive side switch

element is switched off; wherein a first voltage difference between values of the first control signal in an on-state and an off-state is greater than a second voltage difference between the first voltage level and the second voltage level.

5 3. (original) The switched capacitor circuit of claim 2, wherein the value of the first control signal in the on-state is substantially equal to the first voltage level.

4. (original) The switched capacitor circuit of claim 2, further comprising:

10 a negative side capacitor coupled to a first negative side node; and

a first negative side switch element for selectively coupling the first negative side node to the second node according to the first control signal;

15 wherein the precharge circuit is further coupled to the first negative side node for precharging the first negative side node to the precharge voltage for the predetermined time when the first negative side switch element is switched off according to the first control signal, and then for charging the first negative side node to the charge voltage until the first negative side switch element is switched on
20 according to the first control signal.

25 5. (original) The switched capacitor circuit of claim 4, wherein the precharge circuit further comprises a second negative side switch element coupled between the first negative side node and the third node, and having a control terminal coupled to the second control signal.

6. (original) The switched capacitor circuit of claim 5, wherein:

the first positive and negative side switch elements are n-type transistors;
the second positive and negative side switch elements are n-type transistors;
the precharge switch element is a p-type transistor;
the second node is ground;

5 the fourth node is coupled to a constant voltage source;
the precharge voltage is the first voltage level minus a voltage drop across the
second positive or negative side switch element; and
the charge voltage is the second voltage level minus the voltage drop across the
second positive or negative side switch element.

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7. (original) The switched capacitor circuit of claim 5, wherein:

the first positive and negative side switch elements are p-type transistors;
the second positive and negative side switch elements are p-type transistors;

15 the precharge switch element is a n-type transistor;
the second node is coupled to a constant voltage source;
the fourth node is ground;
the precharge voltage is the first voltage level plus a voltage rise across the second
positive or negative side switch element; and

20 the charge voltage is the second voltage level plus the voltage rise across the second
positive or negative side switch element.

8. (original) The switched capacitor circuit of claim 5, further comprising a center
switch element for selectively coupling the first positive side node to the first
25 negative side node according to the first control signal.

9. (original) The switched capacitor circuit of claim 1, wherein the precharge circuit
comprises:

a second positive side switch element coupled between the first positive side node and a third node, and having a control terminal coupled to a second control signal;

5 a positive side diode coupled between the first positive side node and the third node;

 a precharge switch element coupled between the third node and a fourth node, and having a control terminal coupled to the first control signal; and

10 a delay unit for generating the second control signal, wherein the second control signal is the first control signal delayed by the predetermined time;

 wherein the second node is coupled to a constant voltage source at a first voltage level, the fourth node is coupled to a constant voltage source at a second voltage level; and a first voltage difference between the second voltage level and the value of the second control signal in an off-state is smaller than a second voltage difference between the first voltage level and the value of the second control signal in an on-state.

15 10. (original) The switched capacitor circuit of claim 9, wherein the value of the second control signal in the off-state is substantially equal to the first voltage level.

20 11. (original) The switched capacitor circuit of claim 10, further comprising:

25 a negative side capacitor coupled to a first negative side node; and

 a first negative side switch element for selectively coupling the first negative side node to the second node according to the first control signal;

wherein the precharge circuit is further coupled to the negative side node for precharging the first negative side node to the precharge voltage for the predetermined time when the first negative side switch element is switched off according to the first control signal, and then for charging the first negative side node to the charge voltage until the first negative side switch element is switched on according to the first control signal.

5 12. (original) The switched capacitor circuit of claim 11, wherein the precharge circuit
10 further comprises:

15 a second negative side switch element coupled between the first negative side node and the third node, and having a control terminal coupled to the second control signal; and

16 a negative side diode coupled between the first negative side node and the third node.

17 13. (original) The switched capacitor circuit of claim 12, wherein:
20 the positive side diode is formed by a first transistor having the base and the collector, or the gate and the drain of the first transistor being shorted together; and
21 the negative side diode is formed by a second transistor having the base and the collector, or the gate and the drain of the second transistor being shorted together.

22 14. (original) The switched capacitor circuit of claim 12, wherein:

the first positive and negative side switch elements are n-type transistors;
the second positive and negative side switch elements are n-type transistors;
the precharge switch element is a p-type transistor;
the first voltage level is ground;
5 the second voltage level is a constant voltage source;
the precharge voltage is the value of the second control signal in the on-state minus
a first voltage drop across the second positive or negative side switch element;
and
the charge voltage is the second voltage level minus a second voltage drop across
10 the positive or negative side diode.

15. (original) The switched capacitor circuit of claim 12, wherein:

the first positive and negative side switch elements are p-type transistors;
15 the second positive and negative side switch elements are p-type transistors;
the precharge switch element is a n-type transistor;
the first voltage level is a constant voltage source;
the second voltage level is ground;
the precharge voltage is the value of the second control signal in the on-state plus a
20 first voltage rise across the second positive or negative side switch element;
and
the charge voltage is the second voltage level plus a second voltage rise across the
positive or negative side diode.

25 16. (original) The switched capacitor circuit of claim 8, further comprising a center
switch element for selectively coupling the first positive side node to the first
negative side node according to the first control signal.

17 - 28. (cancelled)

29. (previously presented) A switched capacitor circuit used in an oscillator, the switched capacitor circuit comprising:

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a positive side capacitor coupled to a first positive side node and coupled to an oscillator node of the switched capacitor circuit;

10 a first positive side switch element for selectively coupling the first positive side node to a second node according to a first control signal; and

15 a precharge circuit coupled to the first positive side node for precharging the first positive side node to a precharge voltage for a predetermined time when the first positive side switch element is switched off according to the first control signal, and then for charging the first positive side node to a charge voltage until the first positive side switch element is switched on according to the first control signal.

30. (cancelled)

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